



# Draft Environmental Assessment

## **Kasilof River Road Relocation**

**Kenai Peninsula Borough, Alaska**

**FEMA-1445-DR-AK (Hazard Mitigation Grant Program)**

**March 2005**



**FEMA**

**U.S. Department of Homeland Security**

FEMA Region X

130 228<sup>th</sup> Street SW

Bothell, WA 98021-9796

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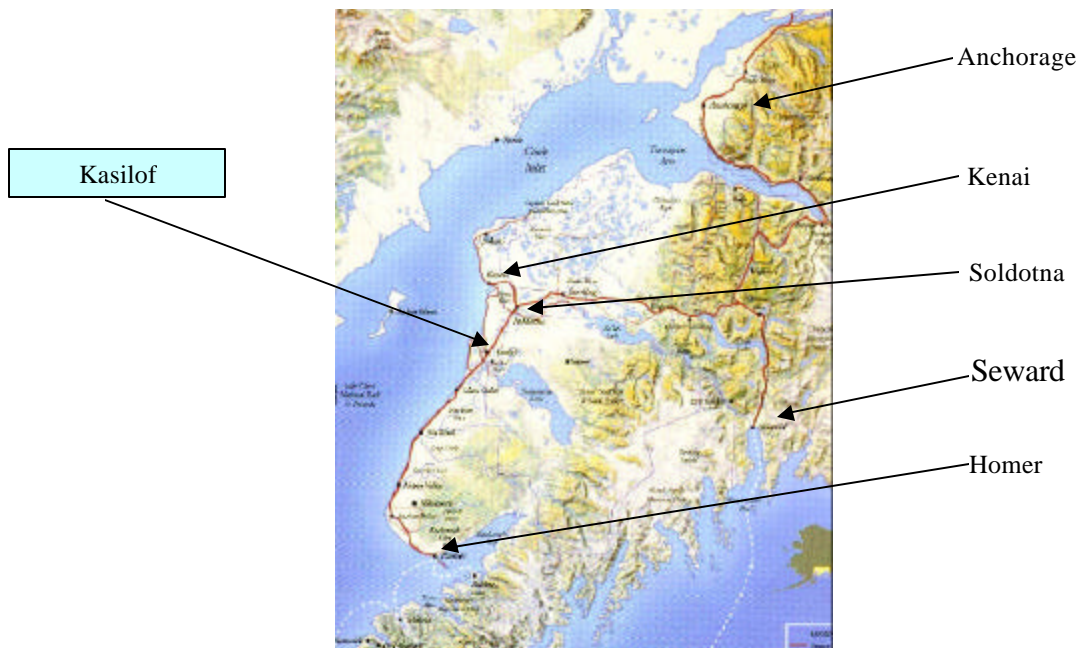
Photo 3.1-3: View north to forest connecting existing ROW to River Road (NW corner of project area).

## 1.0 INTRODUCTION

The Kenai Peninsula Borough (Borough), Alaska, has applied through the Alaska Division of Homeland Security and Emergency Management (ADHS&EM) to the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for assistance to replace Kasilof River Road at an alternate location south of the existing road. FEMA is proposing to fund 75 percent of the cost for this project through the Hazard Mitigation Grant Program (HMGP) under the Presidential disaster declaration for severe winter storms, flooding, coastal erosion and tidal surge, FEMA-1445-DR-AK, that occurred from October 23 through November 12, 2002, in Alaska. The road was damaged during flooding and subsequently repaired, but continues to be at risk from future high river flooding events.

The National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500 through 1508), and FEMA regulations for NEPA compliance (44 CFR Part 10) direct FEMA and other federal agencies to fully understand and take into consideration environmental consequences of proposed projects that will be federally funded. In compliance with NEPA and its implementing regulations, FEMA has prepared this environmental assessment (EA) to analyze potential environmental impacts of the Preferred Alternative and alternatives.

The Kasilof River Road is located approximately one mile to the north of the unincorporated township of Kasilof (see Figure 1.0-1). Kasilof is 15.1 miles from Soldotna, 15.5 miles from Kenai, and 117.2 miles from Anchorage (Alaska's principal population center).



**Figure 1.0-1 – Map of Kenai Peninsula,  
Kenai Peninsula Borough, Alaska.**

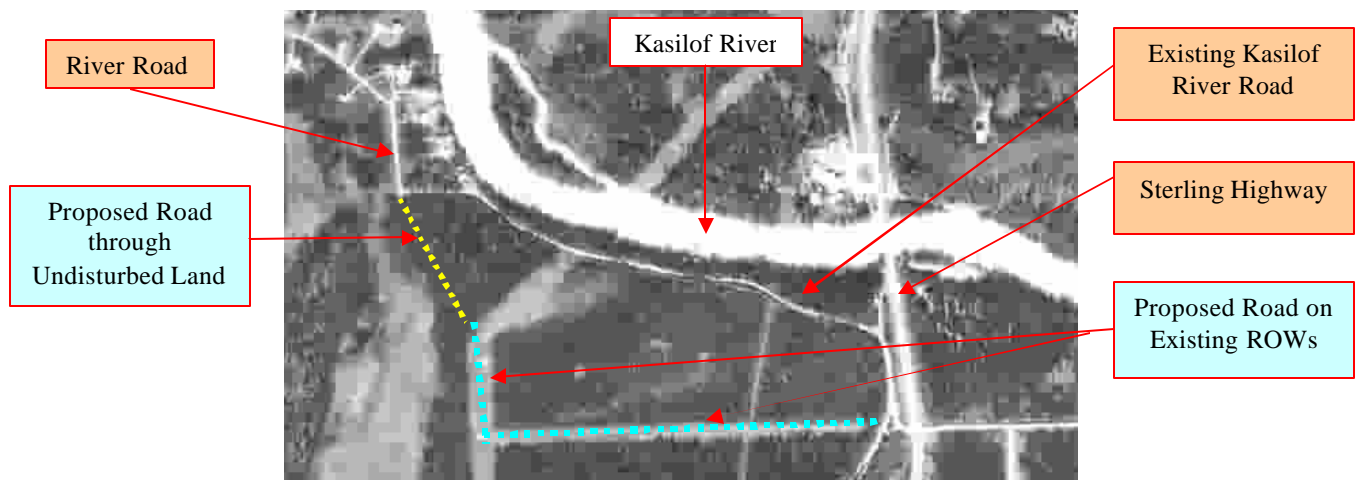
## 2.0 PURPOSE AND NEED FOR ACTION

The purpose of FEMA's HMGP is to reduce the loss of life and property due to natural disasters and to enable long-term hazard mitigation measures to be implemented during recovery from a disaster. Through this program, FEMA provides grants to states, local governments, tribal governments and U.S. territories to fund projects after the declaration of a major disaster. The need for the replacement of the Kasilof River Road at an alternate location is to enable the Borough to construct a cost-effective hazard mitigation project that would eliminate the risk of damage to the road due to future floods.

## 3.0 ALTERNATIVE ANALYSIS

### 3.1 Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)

Under Alternative 1, the Borough would relocate the Kasilof River Road to the south of the Kasilof River primarily along section line easements. The existing Kasilof River Road is located predominantly on top of the Kasilof River bank. A section of the bank eroded and slid into the river during the 2002 flood disaster, and this is expected to happen again during annual high river events as additional erosion occurs. The existing road is not located in a dedicated right-of-way (ROW), therefore widening it during each erosion event is not a practical solution, as it would further encroach onto private and public property.



**Figure 3.1-1 – Aerial photograph of Preferred Alternative site with existing road and location of proposed road along existing ROWs and through a short segment of undisturbed land.**

The existing road extends approximately one-half mile west of the Sterling Highway and does not encounter any residents. It crosses two largely undeveloped parcels for one-half mile before turning into Taylor Avenue, which then connects to River Road and the Taylor and Kasilof West subdivisions. It is the only access road for the subdivisions, which have approximately 9 residences and 19 lots.



**Photo 3.1-2 – Southern existing ROW (Part 1) proposed to use for new road location.**



**Photo 3.1-3 – View north to forest connecting existing ROW to River Road (NW corner of project area).**

The Preferred Alternative site is upland terrain with relatively flat topography and a gentle slope to the north. Most of the site is cleared and is used as a ROW for a natural gas pipeline and by recreation vehicles. The east/west 2,200-foot length of the proposed road would be located in this ROW (Part 1). Where the Preferred Alternative makes a 90° angle to the north, the first 650 feet has been previously cleared and consists of low-lying scrub brush. The last 650 feet of the northern section is wooded and undisturbed, with a gentle downslope as it connects to River Road. All construction would include conservation measures and best practices included in the Borough's road standards (KPB 14.06 Road Standards). In addition, all construction would have a minimum 25-foot buffer zone that separates it from existing utility poles and anchor lines.

The proposed road would be 3,470 linear feet (LF) and would be classified as a Category III road for the Borough. The road prism would be 36 feet wide, with a 2-foot minimum depth for ditches. Construction would begin by removing organic material and clearing the road prism surface along the section line ROWs. Six 18-inch diameter culverts (each 36 feet long) would be placed under the road surface in strategic locations. Following site preparation, the contractor would lay geotextile fabric over the silty subgrade. Approximately 10,410 cubic yards (CYs) of compact gravelly fill would be placed to meet the Borough's grading requirements. Approximately 1.2 acres of previously undisturbed ground would need to be cleared in the northwest corner, connecting the road to River Road. The University of Alaska owns this land and the Borough is in the process of negotiating a 60-foot-wide ROW for the road.

The existing road would be abandoned and would need to be obliterated. This would be performed by leveling the road to just below the surface ground level, filling it with soil from the new road excavation, and seeding it with native vegetation. Grass would be the first vegetation to grow. The area is expected to eventually become overgrown with native tree saplings, shrubs, and larger tree growth.

### **3.2 Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation**

Under Alternative 2, the Borough would continue to use the existing road alignment and would have it assessed for damaged and substandard sections, including the section of bank below the road that eroded and slid into the river during the 2002 flooding. Road width, structural integrity, weak points, and areas susceptible to potential erosion and sloughing would be evaluated, followed by assembling a multi-disciplinary team that would include an engineer, hydrologist, hydraulic specialist, geologist, fish biologist and construction management. The team would develop road upgrades and a bank stabilization plan to establish separation between the river and the road. Road upgrades may include reshaping the road and adding structural fill to increase the width above the riverbank. It is assumed riprap would be placed at the toe of the slope and would extend up to the 100-year flood level. The top of the riprap would provide a construction and maintenance platform.

Bank stabilization methodology would need to be developed according to recommendations from the multi-disciplinary team. It would likely be modeled to include the use of biodegradable fabric to hold structural layers of fill until revegetation and slope stabilization occurs. All fill used would be from approved upland sites. The fabric would prevent erosion caused by high water and heavy rains until vegetation has the opportunity to root and grow, therefore providing natural erosion protection. One method for possible consideration would be the placement of willow fascines (bundles of sticks, twigs, etc.) at the top of each layer of fill. All construction would be required to meet the Borough's road construction standards, along with any permitting conditions required for work within the river's 50-foot habitat protection zone.

There is little room to shift the road alignment to the south and away from the riverbank for Alternative 2. Land to the south is owned by the Alaska Department of Natural Resources in the southeastern section (120 acres) and by the Evenson family (private) in the southwestern section (30 acres). The Borough alleges the owners are each reluctant to offer a right-of-way for the existing location, as the area is susceptible to erosion and an alternative road to the south along public section line easements would be their preference.

### **3.3 Alternative 3 – No Action Alternative**

Under the No Action Alternative, FEMA would not provide funding to the Borough for flood hazard mitigation. Existing conditions at the Kasilof River Road would continue, no measures would be taken to mitigate future flood damage, and the road would continue to be at risk.

## **4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **4.1 Climate, Geology and Soils**

The Kenai Peninsula Borough has a climate with mean monthly temperatures that range from 14.5° Fahrenheit (F) during the coldest month in January, to 55.1° F during the warmest month in July. The wettest months are August through October, with 2.6, 3.5 and 2.9 inches of precipitation, respectively. March through May the area averages less than 1 inch of precipitation. Minor amounts of snowfall have been recorded for May and September (0.8 and 0.2 inches, respectively). The majority of snowfall occurs between November and March and averages 17 inches a month.

The topography of the project area results largely from glaciation and the associated outflow of water and sediments during the last major glacial period. The area is entirely within the Kenai Peninsula lowlands, which consist of hilly Quaternary-age moraines, pitted outwash plains, and drainages including the Kasilof River. The glacial gravels are underlain by up to seven kilometers of tertiary sediments containing lignite, coal, oil, and gas.<sup>1</sup>

The glaciers retreated long ago, but the area remains geologically dynamic. Wind-blown sediment (occasionally including volcanic ash from eruptions west of Cook Inlet) has contributed significantly to soil formation since the glaciers retreated, with Aeolian silts as much as a half-meter thick blanketing earlier glacial sediments.

### ***Environmental Consequences:***

#### Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)

The Preferred Alternative is not anticipated to adversely impact geology or soil characteristics of the project area. Erosion control measures and best practices included in the Borough's road standards would be required for construction to minimize the potential for short-term impacts from soil erosion and stormwater drainage. Work windows for the project would be limited by snow and frost conditions and typically run mid-May until October 1. An unknown amount of short-term dust may be created during construction activities, which would be an irreversible commitment.

#### Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation

Under Alternative 2, excavation required for slope stabilization would occur outside the existing footprint of the road, in an area that has not been previously disturbed. The same work windows would apply as for Alternative 1, and complying with the Borough's road standards would be required during construction to reduce the potential for erosion and run-off. An unknown amount of short-term dust may be created during construction activities, which would be an irreversible commitment.

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<sup>1</sup> Archaeological Investigations for the Kenai-Kachemak Pipeline, Kenai Peninsula, Alaska, Mobley, et al, 2003.

Since the area is relatively flat, snow berms created during the winter when the road is plowed would continue to cause additional erosion and run-off problems in the spring at the top of the riverbank.

#### Alternative 3 – No Action Alternative

Under Alternative 3, the geology and soils in the project area would not be affected because no construction would occur.

## **4.2 Water Resources**

The project area is located in Alaska Department of Natural Resources Region 6, Kasilof River Drainage, which encompasses the Kenai Peninsula lowlands between the Kenai River and Clam Gulch. This region is bordered to the west by Cook Inlet and on the east by the Kenai National Wildlife Refuge. It includes the Kasilof River drainage and population centers in Kasilof and Clam Gulch. A Borough river protection ordinance applies to the Kasilof River in this region and a permit is required for all work within 50 feet of the river, as it is a designated habitat protection zone. The permit applies to building, clearing, excavation, and commercial use activities within the zone.

A search of the FEMA's Geographic Information System (GIS) database, which includes data on streams, rivers, lakes, sloughs and wetlands, indicates water resources in the project vicinity include the Kasilof River to the north and Tustumena Lake (separated by the Sterling Highway) to the west. For the Preferred Alternative, wetlands are located approximately 200 meters west of the second section of the proposed road for the first 650 feet after the road makes a 90° turn north (towards River Road). The wetlands are buffered by a slight rise in topography and a line of thick vegetative and tree growth that begins at the edge of the existing pipeline ROW. Several other small wetlands occur east of the site, but are separated by the Sterling Highway.

Section 404 of the Clean Water Act (CWA) applies to actions affecting waters of the United States and applies to the discharge of dredged or fill material into U.S. waters, including wetlands. The objective of the CWA is to restore and maintain the chemical, physical and biological integrity of the nation's waters. The U.S. Army Corps of Engineers (USACE) regulates Section 404 activities and provides approvals, permits and water quality certifications, as applicable.

Executive Order (EO) 11988 -- Floodplain Management and EO 11990 -- Protection of Wetlands each direct federal agencies to avoid, to the extent possible, both short-term and long-term adverse impacts associated with the occupancy and modifications of floodplains and wetlands. FEMA's regulations for complying with both EOs are promulgated in 44 CFR Part 9 and FEMA applies the Eight-Step Planning Process as required by regulation to meet the requirements.

Wetlands are defined by EO 11990 as those areas inundated by surface or groundwater that support vegetative and aquatic life requiring saturated or seasonally saturated soil conditions for growth and reproduction. National policy considers wetlands to be unique and vital natural resources of critical importance and directs federal agencies to provide

leadership in minimizing the destruction, loss or degradation of wetlands. The U.S. Army Corps of Engineers (USACE) is the federal enforcement agency regarding wetlands.

According to FEMA's Flood Insurance Rate Map (FIRM), Community Panel No. 020012-2730A (effective May 19, 1981), the Preferred Alternative is located outside of both the 100-year and 500-year floodplain in Zone C, an area designated as minimal flooding. The existing road in Alternative 2 is located approximately 25 feet above the Kasilof River, which is mapped as Zone A (a special flood hazard area inundated by 100-year floods). The base flood elevation has not been determined in Zone A and there haven't been any additional hydrology or floodplain studies conducted since floodplain mapping was conducted in 1981.

### ***Environmental Consequences:***

#### Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)

Project implementation is not expected to have an adverse impact on water resources, including wetlands, and the site is not located in a floodplain. Topography, vegetation and the highway adequately buffer the wetlands indicated in GIS mapping. Soil erosion control measures required for construction activities would reduce the potential for sediments and pollutants associated with construction to enter the stormwater discharge pathway. Robin Leighty, Project Manager and Wildlife Biologist for USACE, attended a briefing meeting on the proposed project in September 2004. She concluded from site mapping that there would not likely be any adverse affects to wetlands or any other water resources, provided the Borough's road standards are followed. The Preferred Alternative is compliant with EOs 11988 and 11990.

#### Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation

Alternative 2 is located adjacent to the Kasilof River, which is wetland habitat according to GIS mapping. Although the road itself is not technically located in a floodplain, it is affected by the floodplain and bank stabilization for the road would include work inside Zone A. Alternative 2 would be required to meet work windows and conservation measures established by the Borough's permitting requirements for construction within the 50-foot habitat protection zone, along with meeting the Borough's road standards. The use of riprap to stabilize the riverbank has the potential to increase the water temperature of the Kasilof River and in-water work, if required, has the potential to cause short-term turbidity to water quality. Each which would be an irreversible commitment but are not expected to have long-term adverse impacts.

With the implementation of the Borough's road standards during construction, along with compliance with all required permits and conditions, no adverse impact to the floodplain or wetlands is anticipated and Alternative 2 is compliant with EOs 11988 and 11990.

### Alternative 3 – No Action Alternative

Under the No Action Alternative, construction would not occur and there would not be any impact to water resources, including the floodplain and wetlands.

### **4.3 Vegetation**

Vegetation in the undeveloped areas surrounding both Alternative 1 and 2 is typical of boreal forests found throughout the Kenai Peninsula. The deciduous-coniferous tree canopy consists of alder, spruce, hemlock, birch, cottonwood (balsam poplar), aspen and various willows. In recent years an epidemic of spruce bark beetles has decimated large stands of spruce trees in the area. The forest understory is limited due to shading from the tree canopy and includes native berry and shrub species, with a limited groundcover of low-lying herbaceous plants.

The section easement ROWs included for the Preferred Alternative have been previously cleared during the installation of gas pipelines. This has created a swath approximately 100 feet wide that consists of grasses and low-lying scrub brush. A rough dirt access road runs through the middle of the east/west ROW (Part 1) and becomes churned up and muddy during rainy months due to use by maintenance and recreational vehicles.

### ***Environmental Consequences:***

#### Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)

The road's design would minimize impacts to the environment by conforming to existing section line ROWs, with the exception of clearing approximately 1.2 acres of forestland (owned by the University of Alaska) in the northwest section in order to connect to River Road. Some removal of grasses and low-lying scrub brush would be required along the section line ROWs prior to construction, but impact would be limited as much of the area is already disturbed by an existing dirt road used by maintenance and recreational vehicles. In addition to meeting the Borough's road standards for construction within the existing ROW, the Borough would be required to obtain and comply with a Land Use Permit from the University of Alaska for the ROW through the last forested section. This includes submitting a construction plan for review and approval prior to logging the site. Groundcover would be left undisturbed to the maximum extent practicable and plants native to the Alaska would be used in newly created landscaped areas.

#### Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation

Upgrades to the existing road and stabilization of the bank under Alternative 2 would include excavation beyond the existing footprint in an area that has not been previously disturbed. Along the immediate road footprint the potential impact to vegetation would be minimal. Excavation required to stabilize the bank would involve clearing in a steep area with thick underbrush and a few scattered trees. Impacts would be kept to a minimum by applying erosion control methods required by the Borough's road standards.

Upon completion of construction, plant species common to disturbed areas would be used to revegetate the site.

#### Alternative 3 – No Action Alternative

Under Alternative 3, no construction would occur. This alternative would not impact vegetation.

### **4.4 Wildlife, Listed Species and Critical Habitat**

Birds and mammals now found on the Kenai Peninsula have been present for several thousand years, with few exceptions. Caribou that ranged the Kenai Peninsula up to the 1800s were exterminated, but today small herds have been reintroduced to the area. The area also contains moose, black and brown bears, coyote, lynx, squirrels, hares and other mammals in addition to numerous bird species. Game trails funnel through the Kasilof River area. In addition to the above wildlife, the Kasilof River is popular for sport fishing and supports runs of chinook, silver, sockeye, and pink salmon; both freshwater and sea-run Dolly Varden char, and both freshwater rainbow trout and sea-run steelhead trout.

Section 7 of the Endangered Species Act (ESA) of 1973 requires federal agencies to determine the effects of their actions on threatened and endangered species of fish, wildlife and plants, and their habitats, and to take steps to conserve and protect these species. In compliance with the ESA, a search of FEMA's Geographic Information System (GIS) database was conducted. The GIS data contains current updated information regarding the presence of federally listed threatened and endangered species and their critical habitat. From the GIS analysis, FEMA was able to determine there are not any federally-listed species within a one mile radius of the project area.

#### ***Environmental Consequences:***

##### Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)

Alternative 1 would have no effect on federally-listed threatened and endangered species or their critical habitat, as none occur in the project vicinity. The majority of the site has already been cleared as a ROW and there would be little impact on wildlife habitat. While approximately 1.2 acres of forestland would be cleared in the northwest section of the project area, it is not anticipated to have a long-term adverse affect. By complying with the Borough's road standards and the required Land Use Permit, the impact would be minimal.

##### Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation

Alternative 2 includes excavation outside of the existing footprint of the road for bank stabilization and has the potential to impact the riparian habitat. A permit would be required for all work within 50 feet of the Kasilof River ordinary high water mark, in addition to meeting the Borough's road standards. Compliance with these requirements

would ensure there would not be an adverse affect on wildlife or critical habitat. There would be no effect on federally-listed species, as none occur at the site.

#### Alternative 3 – No Action Alternative

No construction would occur under the No Action Alternative and this alternative would not result in any impact on wildlife, listed species or critical habitat.

### **4.5 Historic, Archaeological and Cultural Resources**

Consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and requires federal agencies to take into account the effect of their actions on any district, site, building, structure, or object that may be potentially impacted by a proposed project. Impacts to archaeological and cultural resources also need to be addressed whenever any previously undisturbed area may be impacted, including excavation at construction sites. As defined in 36 CFR Part 800.16(d), the Area of Potential Effect (APE) “is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.”

FEMA’s current GIS database for historical and archaeological sites listed with the Alaska Office of History and Archaeology (OHA) determined the presence of four OHA archaeological sites<sup>2</sup> located within ½ mile radius of both Alternatives 1 and 2. The sites were added to the statewide Alaska Heritage Resource Survey (AHRs) inventory as a result of a pipeline survey conducted for the Kenai-Kachemak Pipeline in 2002 (Charles M. Mobley & Associates; Alaska State Field Archaeology Permit #2002-19).

Consultation with Stephanie Ludwig, staff archaeologist at OHA, was conducted in September 2004 and it was determined an additional archaeological survey of the Preferred Alternative site would be warranted in areas not covered by the previous survey. Completion of the survey is required before a Finding of No Significant Impact (FONSI) would be issued for this environmental assessment, which is required for FEMA funding. Should any potentially significant historic or cultural resources be discovered by the survey in the APE, further consultation with the tribes and OHA would need to be concluded for the FONSI.

The Kasilof River has a very high potential for prehistoric village sites and on the Kenai Peninsula there are house pits and cache pits still visible that are adjacent to, or truncated by the Sterling Highway (Ludwig, 9/04). Two of the four sites mentioned above occur within ¼ mile of the Preferred Alternative site. They were identified in FEMA GIS mapping, confirmed by OHA, and include the following:

- ? **KEN-363** – This is a prehistoric Tanaina site consisting of a large suite of house and cache pits. The site was investigated when surveying for the proposed Kenai-Kachemak pipeline in 2002 and one cache pit was excavated. No artifacts were recovered but stratigraphic information was noted. The ROW for the pipeline was

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<sup>2</sup> KEN-359, KEN-363, KEN-367 AND KEN-368

shifted in order to miss the cache site and the remainder of the site is located in the woods and outside the APE for the Preferred Alternative.

- ? **KEN-367** – This site is the second of four house/cache pit clusters that are geographically related to each other, the other three being KEN-363, KEN-368, and KEN-369. Two large conical depressions were evident during the Kenai-Kachemak pipeline survey in 2002. A shovel test was dug in the bottom of each depression and in each excavation charcoal was present in considerable amounts just under the sod. No artifacts were found. A 0.5 meter x 3.0 meter trench was excavated during the survey and revealed a dozen fire-cracked rocks at the base of the sod where it contacted the underlying brown forest soil. The artifacts were not concentrated but rather strung out through the length of the trench.

In accordance with EO 13084, Consultation and Coordination with Indian Tribal Governments, FEMA is mandated to establish regular and meaningful consultation and collaboration with Indian tribal governments in the development of regulatory practices that may significantly or uniquely affect their communities. The Kenaitze Tribe and Ninilchik Native Association are considered cultural arms of the modern Natives living in the Kenai-Kachemak study area and archaeological investigations illuminate their prehistoric heritage in particular. Kasilof is considered a critical location for previous coastal-inland water travel and north-south overland travel due to the Kasilof River, Tustumena Lake Glacier and its overflow, and the Harding Ice Field, located to the southeast of Tustumena Lake.

At the recommendation of OHA, the Kenaitze Indian Tribe, Ninilchik Traditional Council and Village of Salamatof were each consulted in September 2004 regarding participation in the review process regarding tribal cultural resources that may be present in or near the Preferred Alternative site. Sasha Lindgren, Cultural Resources Coordinator for the Kenaitze Tribe, expressed interest in including the tribe in the review process and requested that Amber Glenzel, tribal archaeologist, be allowed to participate in the survey for the Preferred Alternative site. Bruce Oskolkoff, Environmental Director of the Ninilchik Tradition Council, did not have staff available to participate in the review and said the tribe felt comfortable in concurring with the findings of the Kenaitze Tribe. Penny Carty of the Village of Salamatof said they do not have a cultural resources staff and there would be no need to do further consultation with their village.

### ***Environmental Consequences:***

#### **Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)**

Alternative 1 is located in an area considered to have a high potential for prehistoric village sites. Records on file to date do not indicate any historic or cultural sites within the APE, but the entire APE has not been surveyed. An archaeological survey of the unsurveyed area is required before the project will be funded. Should any potentially historic or archaeological significant materials be discovered during the survey, the Borough would be required to consult with FEMA, ADHS&EM, and OHA for further guidance. Concurrence from OHA and any tribes that have the potential to be affected regarding how to proceed would be required. The issuance of a FONSI and funding for

the Preferred Alternative would not be approved until it can be determined that no historic, archaeological or cultural resources would be affected.

Should any potentially historic or archaeological significant materials be discovered during project construction or staging of equipment, all activities on the site shall be halted immediately and the Borough shall consult with FEMA, ADHS&EM, and OAHP for further guidance.

#### Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation

No historic, archaeological or cultural resources are located in the APE for Alternative 2 and the potential of finding something is considered low to none. Most of the construction would occur within the footprint of the road in an area that has been previously disturbed. Bank stabilization would involve excavation in an undisturbed area, but it would occur in a steep area and would not likely yield any findings. One AHRS site (KEN-359) was identified by FEMA GIS mapping within a ¼-mile range, but it is separated from the site by the Sterling Highway and would not be affected. Two other sites occur within a ½ mile radius, but they are separated from the APE by ROWs already cleared for the section line easements.

No historic properties would be likely to be affected by Alternative 2. Should any potentially historic or archaeological significant materials be discovered during project construction or staging of equipment, all activities on the site shall be halted immediately and the Borough shall consult with FEMA, ADHS&EM, and OAHP for further guidance.

#### Alternative 3 – No Action Alternative

The No Action Alternative would have no effect on historic, archaeological or cultural resources.

### **4.6 Hazardous Wastes and Materials**

Hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), are defined as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed.”

Visual observation of Alternative 1 and 2 sites did not reveal obvious existing or potential hazardous materials, substances, or conditions and no drums or other sources of potential hazardous materials were observed. At the Preferred Alternative site there are existing gas pipelines buried along the cleared ROWs and their location is clearly marked. By implementing the Borough’s road standards, only very limited amounts of oils and other lubricants would be stored and used at constructed facilities.

## ***Environmental Consequences:***

### **Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)**

Construction of the new road at the Preferred Alternative site would not disturb any hazardous materials or create any potential hazard to human health. The existing gas pipelines are clearly marked and located off center of the existing ROWS. The Borough has consulted informally with the pipeline company, Kenai-Kachemak Pipeline, on the proposed road construction plans and has agreed to keep them informed regarding timelines, construction details, and coarse locates.

If hazardous materials are unexpectedly encountered in the project area during construction operations, appropriate measures for the proper assessment, remediation and management of the contamination would be initiated in accordance with applicable federal, state and local regulations. The contractor would be required to take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area according to the permit requirements.

### **Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation**

The existing road site is not located near the existing gas pipelines and construction would not disturb any hazardous materials or create any potential hazard to human health. The contractor would be required to take appropriate measures to prevent, minimize, and control the spill of hazardous materials during construction and in the construction staging area by the permit process.

### **Alternative 3 – No Action Alternative**

The No Action alternative would not disturb any hazardous materials or create any potential hazard to human health.

## **4.7 Socioeconomic and Environmental Justice (EO 12898)**

Executive Order 12898, Environmental Justice, directs federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations in the United States resulting from federal programs, policies and activities.

The Preferred Alternative and Alternative 2 are both located within the Township of Kasilof, which includes 10.4 square miles. The 2000 U.S. Census Bureau lists the population of Kasilof at 471, and the population of the Borough as 49,691. Industries providing employment in the area include: arts, entertainment, recreation, accommodation and food service (16%), retail trade (13.3%), agriculture, forestry, fishing and hunting, and mining (11.6%), manufacturing (11.6%), and education, health and social services (11.6%). The following is also included in the 2000 census:

- ? Over 92% of the population is white, 6.2% are American Indian, 3.4% are two or more races, and 0.6% are black;
- ? The median resident age is 39.6 years, the median household income is \$43,929 annually, and the median house value is \$110,000;
- ? Among persons 25 years and older, 82.2% are high school graduates or higher, 30.5% have a bachelor's degree or higher, and 7.1% have a graduate or professional degree; and
- ? Over 46% of the population is from 25 to 54 years old.

### ***Environmental Consequences:***

#### Alternative 1 – Relocate Kasilof River Road Site (Preferred Alternative)

The Preferred Alternative would benefit the population serviced by the Borough by providing an access road located outside a flood hazard area for property owners. U.S. Census data indicates the Borough does not have a disproportionate number of minority or low-income persons or persons with few years of formal education. The Preferred Alternative would not have a disproportionately high or adverse effect on any low-income or minority populations, would not cause adverse economic impacts, and is compliant with EO 12898.

#### Alternative 2 – Upgrade Existing Road to Current Standards and Stabilize Bank to Develop River-Road Separation

For the same reasons cited in Alternative 1, Alternative 2 would not have a disproportionately high or adverse effect on any low-income or minority populations and complies with EO 12898.

#### Alternative 3 – No Action Alternative

The No Action Alternative would mean the Borough would not receive funding to relocate the Kasilof River Road or to upgrade and stabilize the existing road (Alternatives 1 and 2). The existing road would continue to be at risk from future flood hazard events and the Borough's ability to maintain access for residents and emergency response providers during such events would be threatened.

## **5.0 CUMULATIVE IMPACTS**

Cumulative impacts are those effects on the environment that result from the incremental effect of the action when added to past, present and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

The Borough has experienced continued population growth. The Preferred Alternative would provide a Class III Borough road to connect the Sterling Highway to Taylor and Kasilof West subdivisions. The existing road would be obliterated and the new road

would be the only access road for the subdivisions, which have approximately 9 residences and 19 lots. It is assumed additional residences will eventually be added on the undeveloped lots, which would increase traffic in the area. No other projects are known to occur in the area and there are not any additional pipelines planned in the project vicinity. Potential impacts would be limited to improvements made to the two existing subdivisions and the project is not expected to have an adverse cumulative impact on the human environment. By creating a road that is safe from flood hazard events, the project would have a beneficial affect to public access in the area.

## 6.0 PUBLIC INVOLVEMENT

The public will be provided an opportunity to comment on the Preferred Alternative for 30 days after the publication of a public notice for this draft environmental assessment (EA) in the Peninsula Clarion. The public notice identifies the action, location of the proposed site, participants, location of the draft EA, and who to write to provide comments. The public notice and copies of the draft EA will be posted at the Kasilof Post Office, Tustamena Elementary School, and the Borough Road Service Area Office, 47140 East Poppy Lane, Soldotna. In addition, the EA will be sent to the Kenaitze Indian Tribe, the Alaska State Office of Archaeology and History, and the Kenai River Center.

## 7.0 REQUIRED PERMITS AND COMPLIANCE

The Borough is required to obtain all required local, state and federal permits and approvals prior to implementing the Preferred Alternative and to comply with them. This includes, but is not limited to, compliance with the Borough's road standards (KPB 14.06) and a Land Use Permit from the University of Alaska for the 1.2 acres in the northwest section that would need to be cleared for a 60-foot-wide ROW. The Borough has also agreed to keep the Kenai-Kachemak Pipeline informed regarding all construction plans and to coordinate with them regarding the placement of the road in relation to the pipeline. All development at the Preferred Alternative site shall be in substantial compliance with the approved site plan. Any expansion or alteration of this use, beyond that initially approved would require approval of a new or amended permit.

In the event historical or archaeologically significant materials or sites (or evidence thereof) are discovered during the implementation of the project, the project shall be halted immediately and all reasonable measures taken to avoid or minimize harm to the findings. The Borough would be required to consult with FEMA, ADHS&EM, and OAHF for further guidance.

## 8.0 CONCLUSION

Provided the archaeological survey determines the Preferred Alternative would have no potential to affect historic or cultural resources, this EA concludes that the proposed relocation of Kasilof River Road for the Borough would result in no significant environmental impacts to the human or natural environment. The Preferred Alternative would then meet the requirements of a Finding of No Significant Impacts (FONSI) under NEPA and the preparation of an Environmental Impact Statement (EIS) is not required.

## 9.0 REFERENCES

Aerial photograph, 3 km S of Kasilof, Alaska; U.S. Geological Survey, Terraserver website, August 27, 1996.

Alaska Department of Fish and Game (ADF&G), Division of Sport Fish, Southcentral Region, Kenai Peninsula Recreational Fishing Series, [www.state.ak.us/adfg](http://www.state.ak.us/adfg).

ADF&G, Division of Wildlife Conservation website, [www.wildlife.alaska.gov/aawildlife/ecosystems/boreal.cfm](http://www.wildlife.alaska.gov/aawildlife/ecosystems/boreal.cfm).

Alaska Department of Natural Resources, State Parks Near Kasilof website, [www.dnr.state.ak.us/parks/units/kasilof.htm](http://www.dnr.state.ak.us/parks/units/kasilof.htm).

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Carty, Penny; Village of Salamatof, P.O. Box 2682, Kenai, AK 99611, (907) 283-7864, personal communication.

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Flood Insurance Rate Map (FIRM), Community Panel No. 020012-2730A, effective date May 19, 1981.

Kenai Area Plan, Summary of Resources and Uses in the Region, Region 6, Kasilof River Drainage, Chapter 3, Land Management Policies, August 2001.

Kenai Peninsula Borough Parcel Lookup, Central Peninsula Emergency Services, Kenai Peninsula Borough, Parcel Nos. 13312056 (Alaska DNR), 13312077 (Evenson), and 13311020 (University of Alaska), 2002.

Kasilof, Alaska; detailed profile website, [www.city-data.com/city/Kasilof-Alaska.html](http://www.city-data.com/city/Kasilof-Alaska.html).

Kenai Peninsula Borough website, [www.borough.kenai.ak.us/geo01.htm](http://www.borough.kenai.ak.us/geo01.htm).

Koester, Karen; Roads Inspector, Kenai Peninsula Borough, personal communication and site visit.

Leighty, Robin; Project Manager/Wildlife Biologist, Kenai Field Office, U.S. Army Corps of Engineers, 105 Trading Bay Road, Suite 105, Kenai, AK 99611-7717, (907) 283-3519, personal communication.

Lindgren, Sasha; Kenaitze Indian Tribe, P.O. Box 988, 255 Ames Road, Kenai, AK 99611-0988, (907) 283-3633, personal communication.

Ludwig, Stephanie; archaeologist, OAHP, 550 West 7<sup>th</sup> Avenue, Suite 1310, Anchorage, AK 99501-3565, (907) 269-8720, personal communication.

Mahorcich, John; Resource Planner, Kenai River Center, 514 Funny River Road, Soldotna, AK 99669, (907) 260-4882, personal communication.

Oskolkoff, Bruce; Environmental Director, Ninilchik Traditional Council, P.O. Box 39070, 15910 Sterling Highway, Ninilchik, AK 99639, (907) 567-4394, personal communication.

Underwood, Chick; Marathon Oil, Anchorage, Alaska, (907) 564-6435, personal communication.

## **APPENDIX G – PUBLIC NOTICE**

### **Notice of Availability Draft Environmental Assessment (EA) Relocation of Kasilof River Road FEMA-1445-DR-AK**

Interested persons are hereby notified that the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the relocation of the Kasilof River Road in Kasilof, Kenai Peninsula Borough, Alaska, to mitigate potential damages and losses that could result from future flood hazard events. FEMA would fund 75 percent of the cost of this project through the Alaska State Hazard Mitigation Grant Program (HMGP), under the Presidential disaster declaration for the 2002 Kenai Peninsula Borough fall flooding, FEMA-1445-DR-AK. The State of Alaska would fund the remaining 25 percent of the project.

FEMA prepared a draft environmental assessment (EA) for the proposed project pursuant to the National Environmental Policy Act (NEPA) of 1969 and FEMA's implementing regulations. The EA evaluates alternatives for compliance with applicable environmental laws, including Executive Orders 11990 - Protection of Wetlands, 11988 - Floodplain Management, 12898 - Environmental Justice. The alternatives evaluated include (1) constructing a new road primarily along existing section line easements away from the Kasilof River; (2) reinforcement of the existing road embankment; and (3) no action.

The draft EA is available for review between April 28 and March 27, 2005, at the Kasilof Post Office, Tustamena Elementary School, and the Borough Road Service Area Office, 47140 East Poppy Lane, Soldotna. The EA is also available for review online at the FEMA environmental website at <http://www.fema.gov/ehp/docs.shtm>.

Written comments on the draft EA should be directed no later than 5:00 p.m. on March 27, 2005, to Mark Eberlein, Regional Environmental Officer, FEMA Region X, 130 228<sup>th</sup> Street SW, Bothell, WA 98021 or by e-mail to [mark.eberlein@dhs.gov](mailto:mark.eberlein@dhs.gov).